

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/055703 A2

(51) International Patent Classification⁷: **A01H**
(21) International Application Number:
PCT/IB2004/004419

(22) International Filing Date:
10 December 2004 (10.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/528,777 12 December 2003 (12.12.2003) US

(71) Applicant (for all designated States except US): **UNIVERSITY OF MANITOBA** [CA/CA]; 631 Drake Centre, 181 Freedman Crescent, Winnipeg, Manitoba R3T 5V4 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HILL, Robert, D.** [CA/CA]; 34 McNulty Cres., Winnipeg, Manitoba R2M 5H4 (CA). **BARON, Kevin** [CA/CA]; Box 623, Carberry, Manitoba R0K 0H0 (CA).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

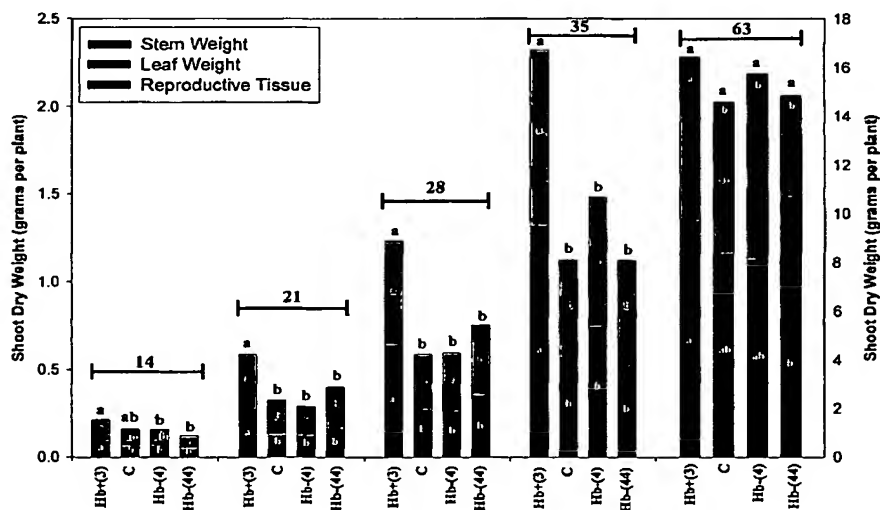
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF MODIFYING PLANT PHENOTYPES WITH NONSYMBIOTIC HEMOGLOBIN



(57) Abstract: The present invention provides a method of modifying a plant phenotype by transforming a plant to alter the level of expression of non-symbiotic plant hemoglobin in the plant, whereby the transformed plant exhibits, under normal oxygen conditions, a plant phenotype that is modified as compared to a non-transformed plant. Plants exhibiting modified phenotypes under normal oxygen conditions also are provided. Methods of modifying the response to a plant hormone in a plant also are provided.

WO 2005/055703 A2

BEST AVAILABLE COPY